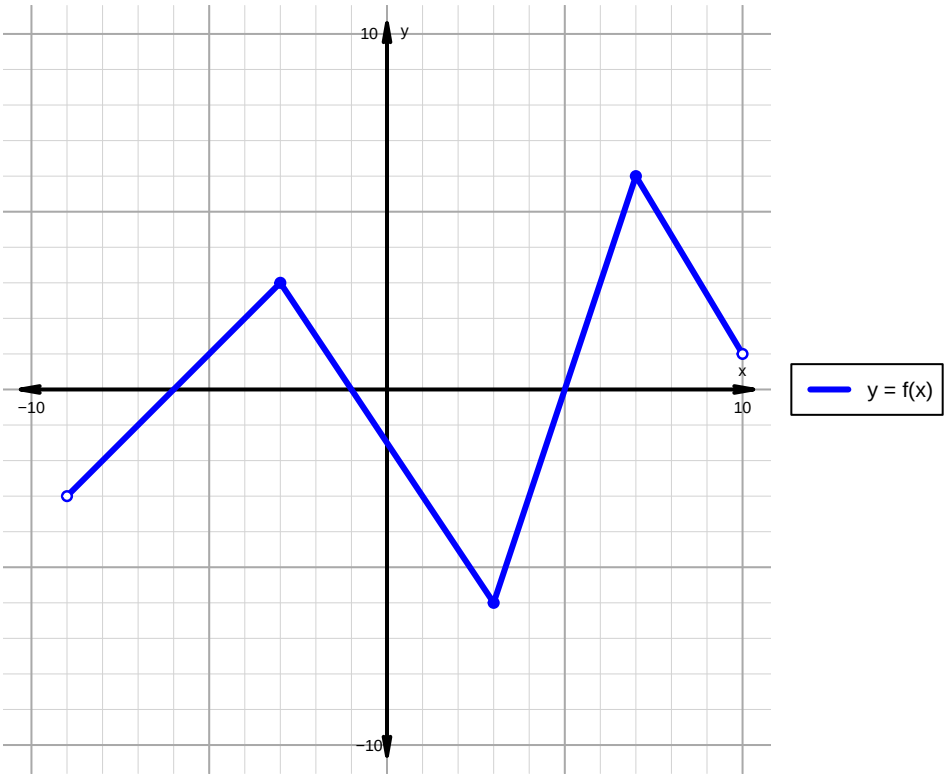
Name: Date:

Intervals, Transformations, and Slope Solution (version 17)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-6,-1)\cup(5,10)$
Negative	$(-9,-6)\cup(-1,5)$
Increasing	$(-9,-3)\cup(3,7)$
Decreasing	$(-3,3)\cup(7,10)$
Domain	$(-9,10)$
Range	$(-6,6)$

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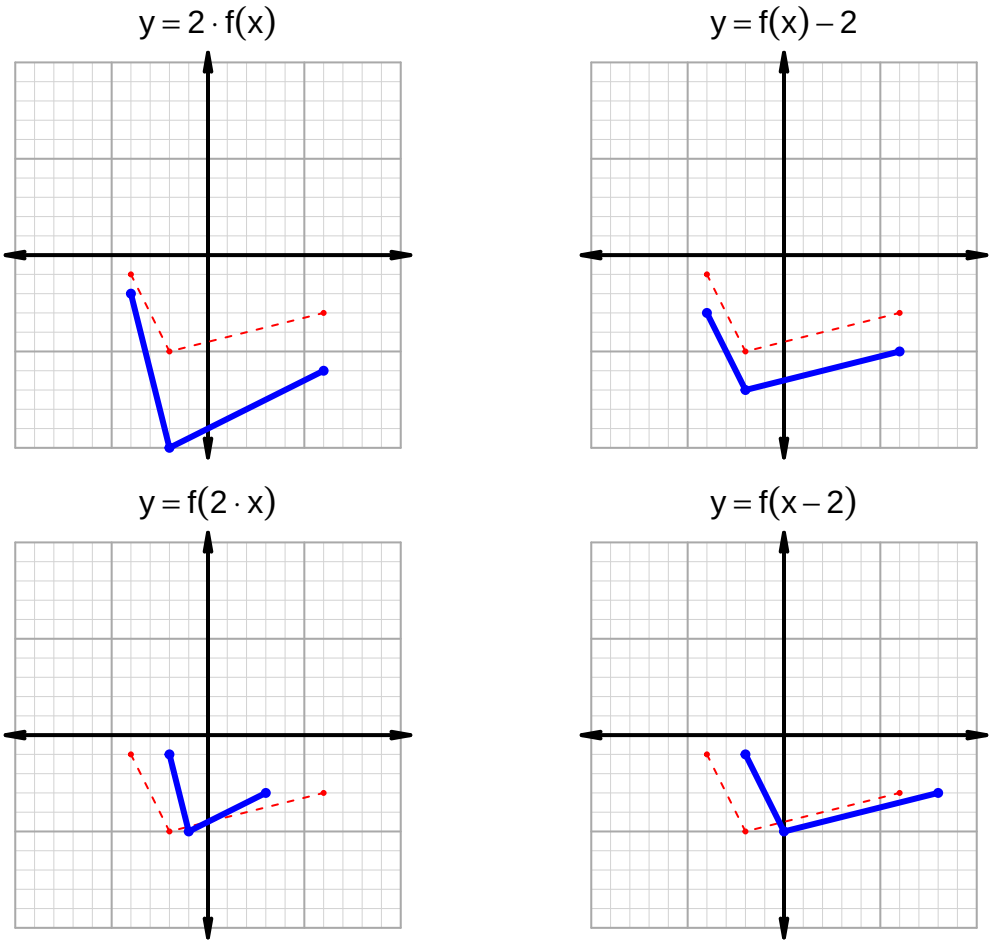
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. Please add the indicated transformed graphs indicated by the equations below using a solid line.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 22$ and $x_2 = 62$. Express your answer as a reduced fraction.

x	$g(x)$
2	22
22	58
58	62
62	2

$\frac{f(62)-f(22)}{62-22} = \frac{2-58}{62-22} = \frac{-56}{40}$

The greatest common factor of -56 and 40 is 8. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-7}{5}$$